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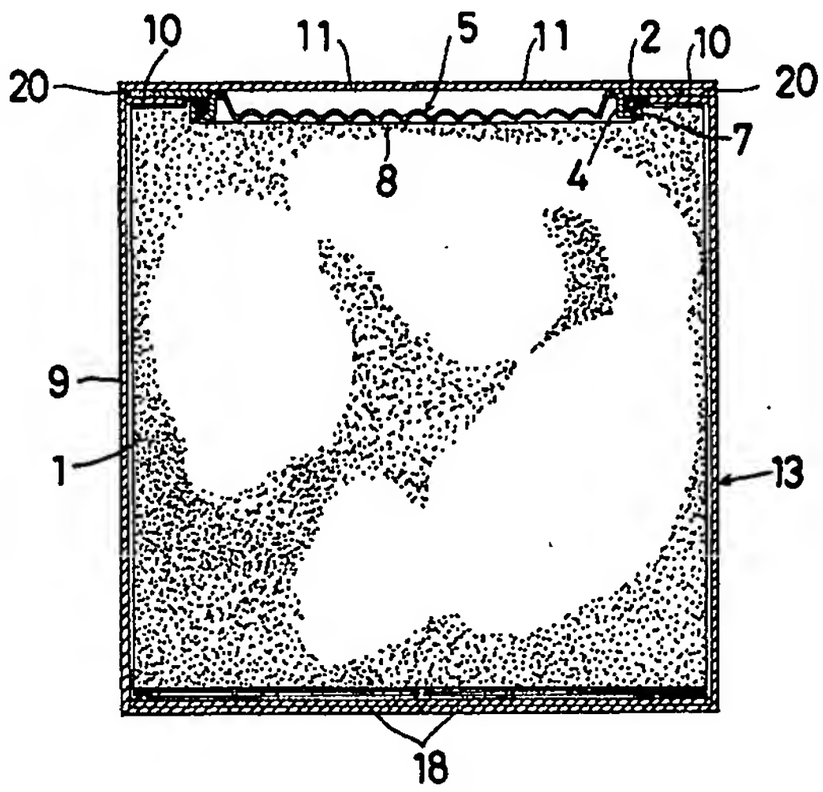
(54) Composite packing container.

(57) A composite packing container comprising an inner container (1) which comprises a frame member (2) having an opening (3) and an inner circumferential edge (4) projecting downwards therefrom, a closure member (5) detachably mounted in the opening (3) for closing the same, and a synthetic resin film made bag (6) which is, at its bottom surface portion (8), attached to the whole circumference of the lower end portion of the inner circumferential edge (4) of the frame member (2), with its top opening portion being remained open downwards and a paper board made outer container (13) which comprises a side barrel (9) arranged to receive the foregoing bag (6), a pair of opposite inner flaps (10, 10) connected to an upper open peripheral edge of the side barrel (9) and arranged to be inserted into a cap formed between the frame member (2) and the bottom surface portion (8) for supporting the frame member (2) from below, a pair of opposite outer flaps (11, 11) arranged to cover the frame member (2).



EP 0 053 310 A1

COMPOSITE PACKING CONTAINER

This invention relates to a composite packing container at the type that liquid such as solid goods as powder or the like, is placed in a synthetic resin-film-made inner bag and the surrounding outside of the inner bag is protected by an outer container made of paper board such as corrugated cardboard or the like.

As to a conventional composite packing container of this kind, there has been hitherto used such a type in that a synthetic resin-film-made bag containing liquid or the like is mounted in an outer container made of paper board, and the bag is provided with a pouring mouth.

It has been usual with this type in that (as shown in Fig. 14) the synthetic resin-film-made bag a provided with the pouring mouth c attached to the top surface portion thereof, along with the pouring mouth c, is mounted in and covered by the outer container b at the time of packing of goods, and consequently the pouring mouth c is brought to be sunken into the bag a or pressed against the bag a. Accordingly, there is involved such a defect that when powder, liquid or the like contained in the bag a is moved by vibrations or shocks during conveying thereof, such a portion of the

bag a that is around the pouring mouth c is experienced in repeated bendings or frictions with the outer container b, and as a result there is made therein pin holes for causing leakage of the liquid or the like. Additionally, when the pouring mouth c is intended to be taken outside the outer container b, if the bag a is not fully filled with the liquid or the like, the pouring mouth c is shifted in its position and there is resulted such a trouble that before taking out the pouring mouth c location thereof is required.

For avoiding those defects, there has been proposed such a type of composite container that only the pouring mouth c of the bag is positioned outside the outer container b. With this case arrangement, however, there are difficulties in storing or conveying of plural containers of this type, when they are put one upon another, because of the pouring mouth c protruded from the outer surface of the outer container b of each composite container.

This invention has for its object to provide a composite packing container wherein the foregoing defects can be removed, and putting of an inner container in an outer container is simple, and charging of a goods or commodity such as liquid, powder or the like is easy, and in addition, even if the goods is charged and packed in the container, storing or conveying of the plural ones in a piled condition can be carried out and furthermore discharging of the packed goods is easy, and after opening of the container, it can be closed again, so that it can be used also as a daily container.

The invention comprises an inner container which comprises a frame member having an opening and an inner circumferential edge projecting downwardly therefrom, a closure member detachably mounted in the opening for closing the same, and a synthetic resin film made bag which is, at its bottom surface portion, attached to the whole circumference of the lower end portion of the inner circumferential edge of the frame member, with its top opening portion being remained open downwards; and a paper board made outer container which comprises a side barrel arranged to receive the foregoing bag, a pair of inner flaps connected to an upper open peripheral edge of the side barrel and arranged to be inserted in a gap formed between the frame member and the bottom surface portion for supporting the frame member from below, a pair of outer flaps arranged to cover the frame member closed by the closure member and brought in engagement with the inner flaps and perforated lines so cut in such regions of the outer flaps as to conform to the shape of the closure member that come to face the closure member at the time of shutting up the outer flaps and the inner flaps and the outer flaps are adhered together at their mutually facing inner surfaces.

Embodying examples of this invention will be explained in more detail with reference to the accompanying drawings:

Fig. 1 is a perspective view of one exemplified composite type container of this invention,

Fig. 2 is a sectional view taken along the line II-II in Fig. 1,

Fig. 3 is a sectional view taken along the line III-III in Fig. 1,

Fig. 4 is an exploded perspective view of the container shown in Fig. 1,

Fig. 5A-5C are perspective views showing a manufacturing process of a bag in Fig. 4,

Fig. 6A-6C are perspective views showing a modified example of the manufacturing process of the bag,

Fig. 7 is a perspective view of an inner container in an assembled condition thereof,

Fig. 8 is a sectional view taken along the line VIII-VIII in Fig. 7,

Fig. 9 is a perspective view of the inner container mounted in an outer container,

Fig. 10A-10D are perspective views for explaining a process for charging a goods,

Fig. 11 is a perspective view showing a packed condition after charging the goods,

Fig. 12 is a sectional view taken along the line XII-XII in Fig. 11,

Fig. 13 is a perspective view showing an opened condition for taking out the goods, and

Fig. 14 is a sectional side view of a conventional example

As shown clearly in Fig. 1, this invention composite container is of such a type that an inner container 1 is mounted in and fixed to an outer container 13, and as shown clearly in Fig. 4, one example thereof comprises the inner container 1 including a frame member 2, a closure member 5 and an engageable fastening ring 7; and the outer container 13. As shown clearly in Figs. 4 and 7, the frame member 2 is formed of a ring

shaped one made of synthetic resin, and is provided integrally with an inner circumferential edge 4 which projects downwards from the periphery of an opening 3 made therein, and with a step portion 4a formed on the outer periphery of the inner circumferential edge 4. The upper end of the inner circumferential edge 4 of the frame member 2 is so arranged as to be lowerer in height level than the upper end of the frame member 2 by a distance corresponding to the thickness of a peripheral edge of the closure member 5, so that when the closure member 5 is mounted in the frame member 2, the upper surface of the closure member 5 does not project upwards from the upper surface of the frame member 2. The closure member 5 is made of synthetic resin similarly to the case of the frame member 2, and is in the form of a disc, and circular beads 14 are formed concentrically on the central disc area thereof, so that it can be removed that when the closure member 5 is formed into a thin soft synthetic resin made one, the same is deflected and becomes difficult to mount in the frame member 2.

The bag 6 is made of a ⌋-shaped folded sheet, and the width of the folded sheet is larger than the diameter of the frame member 2, and a middle surface bottom portion 63 thereof is folded inwards at its center transversal fold 15 and side edges thereof 16, 16 of each both side surfaces are sealed together by heat fusion, and the resultant bag is expanded to form the bottom surface portion 8.

A process for forming the bottom surface portion 8 of the bag 6 will be explained more in detail as follows:

A sheet of synthetic resin film 61 is folded into a]-shaped form to have a pair of opposite side surface portions 62, 62 and a middle surface bottom portion 63, and the middle surface bottom portion 63 is further folded inwards to form a fold 15 at a central transversal line and mutually facing right and left parts 63a and 63a thereof as shown in Fig. 5A. Next, as shown in Fig. 5B, the facing parts 63a, 63a of the folded middle surface bottom portion 63 are spread outwards, and those parts 63a, 63a and such parts 62a, 62a of the side surface portions 62, 62 that overlap those parts 63a, 63a are fused together in the form of V in both end regions of the spread middle surface bottom portion 63. Thereafter, as shown in Fig. 5C, the parts 63a, 63a of the spread middle surface bottom portion 63 are turned inwards about the fold 15 to put together, and respective opposite side edges 62a, 62a and 62a, 62a of the opposite side surface portions 62, 62 as well as both side edges 63b, 63b of the middle surface bottom portion 63 are fused together to form the two sealed side edges 16, 16 of the bag 6, and thereafter the bag 6 is expanded to form a square bottom surface portion 8 of the bag 6, as shown in Fig. 4.

The process for forming of the bottom surface portion 8 of the bag 6 as shown in Figs. 4 and 5 can be modified as described below:
Namely, as shown in Fig. 6A, a sheet of synthetic resin film is folded into two and both side edges thereof are fused together to form the heat-sealed side edges 16, 16. The bag 6 thus formed is so expanded as to form a flat square bottom surface portion 8 as shown in Fig. 6B, and the resultant two triangular corner portions 64, 64 thereof are folded downwards to be put on the side surface portions 62, 62 as shown in Fig. 6C.

Next,for constracting the inner container 1, as shown in Figs. 4 and 7, the frame member 2 is brought into contact with the bottom surface portion 8 of the bag 6, and the fastening ring 7 is mounted on and engaged with the annular step portion 4a formed on the outer surface of the inner circumferential edge 4 of the frame member 2 from the inside of the bag 6, and thereby the bottom surface portion 8 of the bag 6 is tightly fastened to the frame member 2 and at the same time the opening 3 of the frame member 2 is tightly closed by the bottom surface portion 8.

The outer container 13 is a usual rectangular form of corrugated cardboard made container, and the side barrel 9, that is, the side peripheral frame is adapted to fitly receive the foregoing inner container 1. A pair of opposite inner flaps 1o, 1o connected to the upper open periphery thereof are so formed that their forward edges may be shaped into semi-circular ones 17, 17 as shown in Fig. 4. As shown in Figs. 2, 3 and 9, the opposite inner flaps 1o, 1o are inserted into a gap formed between the frame member 2 of the inner container 1 and the bottom surface portion 8 of the bag 6, so that the inner container 1 is supported by the outer container 13.

In addition, a pair of opposite outer flaps 11, 11 connected to the remaining two opposite side edges of the upper open periphery of the outer container 13 are so formed as to be brought into abutment with each other at the center portion of the opening of the frame member 2 and thereby enough to cover the frame member 2 and the closure member 5 brought after the frame member 2 of the inner container 1 is supported by the inner flaps 1o, 1o as shown in Figs. 3 and 9, and in addition the outer flaps 11, 11 are applied with respective semi-circular perforated lines 12, 12 which are so made therein as to extend along the circular shape of the closure

member 5 positioned below the outer flaps 11, 11 when the outer flaps 11, 11 are closed together to cover the inner flaps 1o, 1o, and the outer flaps 11, 11 and the inner flaps 1o, 1o are adhered together at their mutually facing inner surfaces.

Accordingly, as shown in Figs. 2 and 3, in such a condition that the inner container 1 is put in and packed in the outer container 13, the frame member 2 of the inner container 1 is in engagement with the inner flaps 1o, 1o of the outer container 13, and the inner and outer flaps 1o, 1o, 11, 11 are integral one with another by an adhesive agent 2o, so that the frame member 2 is held firmly therebetween and thus is assuredly fixed to the outer container 8.

When any goods such as liquid or the like is intended to be charged in the inner container 1, the outer container 13 containing the inner container 1 therein is turned upside down as shown in Fig. 1oA, and the goods is charged therein from an opening 19 of the bag 6 of the inner container 1 surrounded by lower flaps 18 of the outer container 13, and thereafter the opening of the bag 6 is sealed by fusion adhesion as shown in Fig. 1oB, and the heat-sealed portion of the bag 6 is folded inwards to become a square flat surface portion, as shown in Fig. 1oC, and then the inner and outer flaps 18 are closed together in order to cover the square surface bottom portion and are adhered together to complete the packing as shown in Fig. 1oD and Fig. 11.

For discharging the packed goods, the portions encircled by the perforated lines 12, 12 in the outer flaps 11, 11, of the outer container 13 are torn off to expose

the closure member 5 of the inner container 1, and then the closure member 5 is taken off and the bottom surface portion 8 of the bag 6 closing the opening 3 is torn or cut off, as shown in Fig. 13, so that the goods contained therein can be taken out. Thereafter the inner container 1 is closed again by mounting the closure member 5 in the opening 3. Even when the same is covered or uncovered repeatedly by the closure member 5, the frame member 2 is firmly fixed to the outer container 13, so that closing and opening of the closure member 5 can be facilitated.

According as the contained goods is taken out, the containing amount thereof in the bag 6 is decreased, but the frame member 2 is held between the inner and outer flaps 1o, 1o. 11, 11, so that the frame member 2 is always kept in its fixed position and never be shifted or lowered and there is no trouble in taking out of the goods contained therein.

The foregoing examples have shown that the foregoing folded sheet and bag-shaped members which has no square bottom surface are used for forming the bag 6 of the inner container 1, but the same object of this invention can be achieved also by using as the bag 6 any bag-shaped member of which the bottom portion is already formed into a square bottom surface portion. However, when the foregoing members are used, the bag 6 can be produced at a lower price. The foregoing examples have shown that the frame member 2 is fixed to the bottom surface portion 8 of the bag 6 by the fastening ring 7 in construction of the inner container 1. However, such a modification can be considered that only the frame member 2 previously closed by the closure member 5 is held between

the inner flaps 1o, 1o and the outer flaps 11, 11 of the outer container 13 and thereafter the bottom surface portion 8 of the bag 6 is brought into contact with the lower end of the inner circumferential edge 4 of the frame member 2 through the opposite opening 19 of the bag 1 in the outer container 13, and then the fastening ring 7 is mounted on the step portion 4a of the inner circumferential edge 4 so as to fix the frame member 2 to the bag 6.

In the foregoing examples, the frame member 2 is detachably fixed to the bag 6 by the fastening ring 7, but this invention object can be performed also by that the frame member 2 is directly adhered to the bag 6 by fusion adhesion or by an adhesive agent.

Thus, according to this invention, the frame member 2 of the inner container 1 is supported by the inner flaps 1o, 1o of the outer container 13 and is covered by the outer flaps 11, 11, so as to be held between the flaps 1o, 1o and 11, 11 so that the frame member 2 of the inner container 1 never be moved even when the goods contained therein is applied with vibration of shocks during conveying of the container, and accordingly there is not such a fear that the surrounding region of the bag 6 adjacent to the frame member 2 might be given repeated bending actions to make pin holes therein. Additionally, since the top surface of the outer container 13 is flat even after the goods is packed, it is simple and convenient to store and convey plural ones in a piled condition. For taking out the goods contained therein, the closure member 5 can be opened and closed freely simply by breaking off the perforated lines 12, 12 previously made in the outer flaps 11, 11 of the outer container 13, and

opening and closing of the closure member 5 becomes extremely easy because the frame member 2 is reliably kept in its fixed condition by the inner and outer flaps 1o, 1o, 11, 11, and additionally the frame member 2 never be shifted or lowered even if the containing amount of the goods is decreased, so that taking out of the goods is facilitated, and there can be offered a composite packing container which is simple in construction.

CLAIMS:

1. A composite packing container comprising an inner container (1) which comprises a frame member (2) having an opening (3) and an inner circumferential edge (4) projecting downwards therefrom a closure member (5) detachably mounted in the opening (3) for closing the same, and a synthetic resin film made bag (6) which is, at its bottom surface portion (8), attached to the whole circumference of the lower end portion of the inner circumferential edge (4) of the frame member (2), with its top opening portion being remained open downwards;and a paper board made outer container (13) which comprises a side barrel (9) arranged to receive the foregoing bag (6), a pair of opposite inner flaps (1o, 1o) connected to an upper open peripheral edge of the side barrel (9) and arranged to be inserted into a gap formed between the frame member (2) and the bottom surface portion (8) for supporting the frame member (2) from below, a pair of opposite outer flaps (11, 11) arranged to cover the frame member (2) closed by the closure member (5) and brought in engagement with the inner flaps (1o, 1o) and perforated lines (12, 12) so cut in such regions of the outer flaps (11, 11) as to conform to the shape of the closure member (5)that come to face the closure member (5) at the time of shutting up the outer flaps (11, 11), and the inner flaps (1o, 1o) and the outer flaps (11, 11) are adhered together at their mutually facing inner surfaces.

2. A composite packing container as claimed in claim 1, wherein the bottom surface portion (8) of the foregoing bag (6) is adhered to the whole circumference of the lower end portion of the inner circumferential edge (4) of the opening (3) of the frame member (2) so as to tightly close the opening (3) of the frame member (2).

3. A container as claimed in claim 1, wherein the inner container (1) is provided with a step portion (4a) formed on the periphery of the outer surface of the inner circumferential edge (4) surrounding the opening (3) of the frame member (2)and an engageably fastening ring (7) arranged to be detachably mounted on the step portion (4a),and the bottom surface portion (8) of the bag (6) placed along on the lower end of the inner circumferential edge (4) of the frame member (2) is firmly held, by means of mounting the fastening ring (7) on the step portion (4a), between the ring (7) and the step portion (4a) so as to tightly close the opening (3) of the frame member (2).

4. A container as claimed in claim 1, wherein the frame member (2) and the closure member (5) are made of synthetic resin, and beads (14) are formed concentrically on the central plate area of the closure member (5).

5. A container as claimed in claim 1, wherein the bag (6) has the bottom surface portion (8) which is an expanded flat surface one.

6. A container as claimed in claim 1, wherein the outer container (13) is rectangular in form and the bag (6) so formed that a middle surface bottom portion (63)

of a ⌋- shape folded sheet is folded inwards at its center transversal fold (15, Fig. 5A), and the resultant right and left parts (63a, 63a) of the folded middle surface portion (63) and such parts (62a, 62a) of the two side surface portions (62, 62) that overlap the right and left side parts (63a, 63a) thereof are fused together in the form of V in both end regions of the middle surface bottom portion (63, Fig. 5B) and the parts (63a, 63a) of the middle surface bottom portion (63) are turned inwards about the fold (15) to put together and the respective opposite side edges (62a, 62a; 62a, 62a) of the opposite side surface portions (62, 62) as well as both side edges (63b, 63b) of the middle surface bottom portion (63) are fused together to form the two sealed side edges (16, 16) of the bag (6, Fig. 5C) and the bag (6) is expanded to form a square bottom surface portion (8) of the bag (6, Fig. 4).

7. A container as claimed in claim 1, wherein the outer container (13) is rectangular in form and the bag (6) is so formed that a bag-shaped member which is closed at its fold bottom edge (15) and at its opposite side heat-sealed edges (16, 16) is used (Fig. 6A) and both side surfaces (61, 61) of the fold bottom edge (15) is expanded so as to produce a square bottom surface portion (8, Fig. 6B) and the resultant triangular corner portions (64, 64) formed on both opposite sides of the square bottom surface portion (8) are folded back along on both the side edges (16, 16) of the bag so as to form a rectangular tubular (Fig. 6C).

116

FIG.1

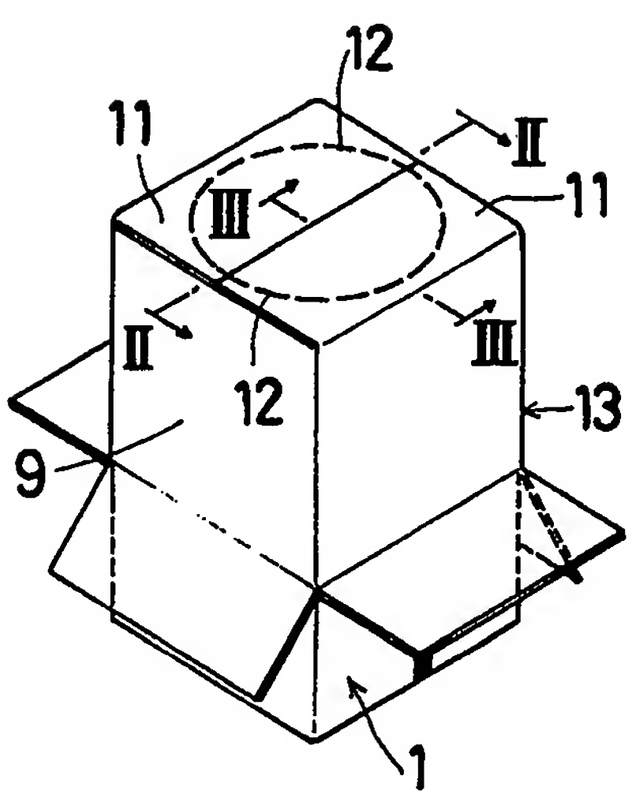


FIG.3

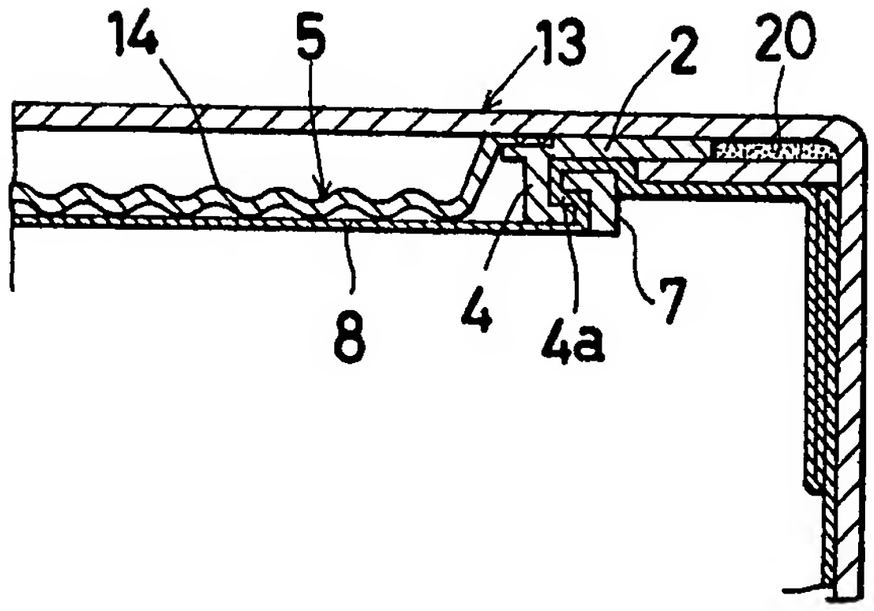
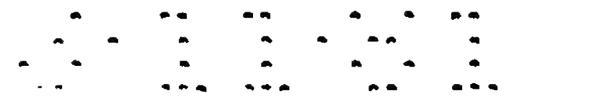
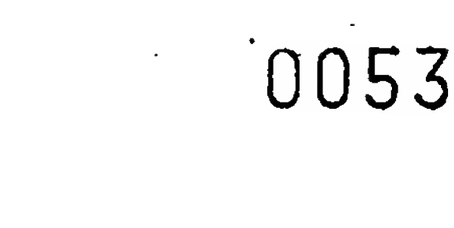
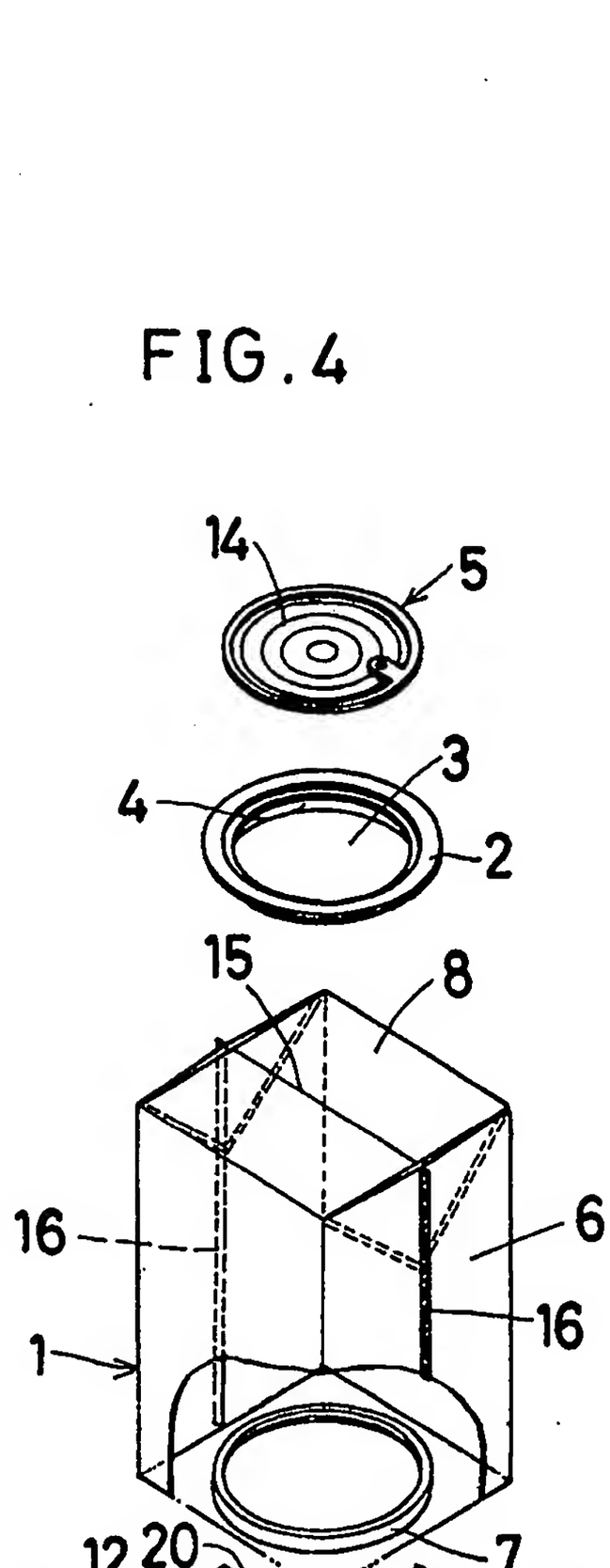


FIG.4







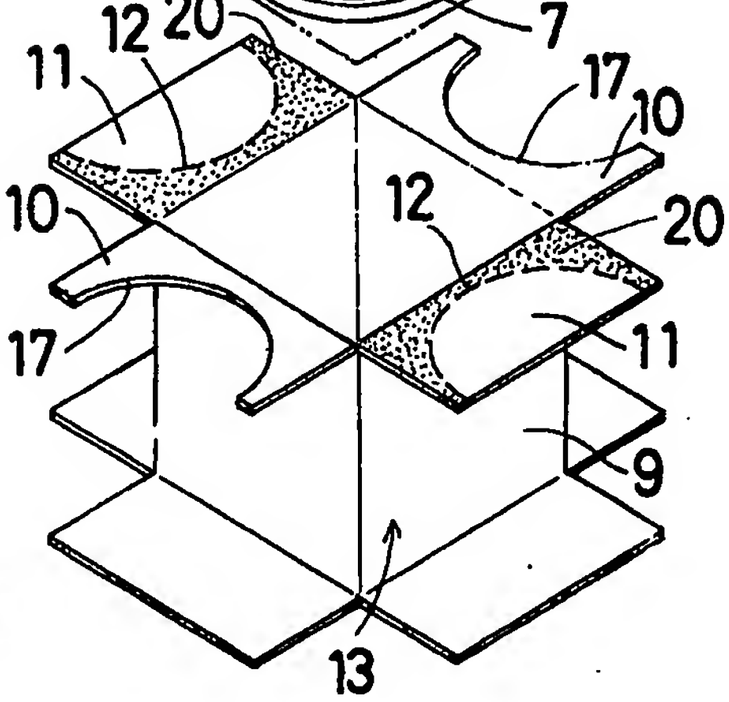


FIG.2

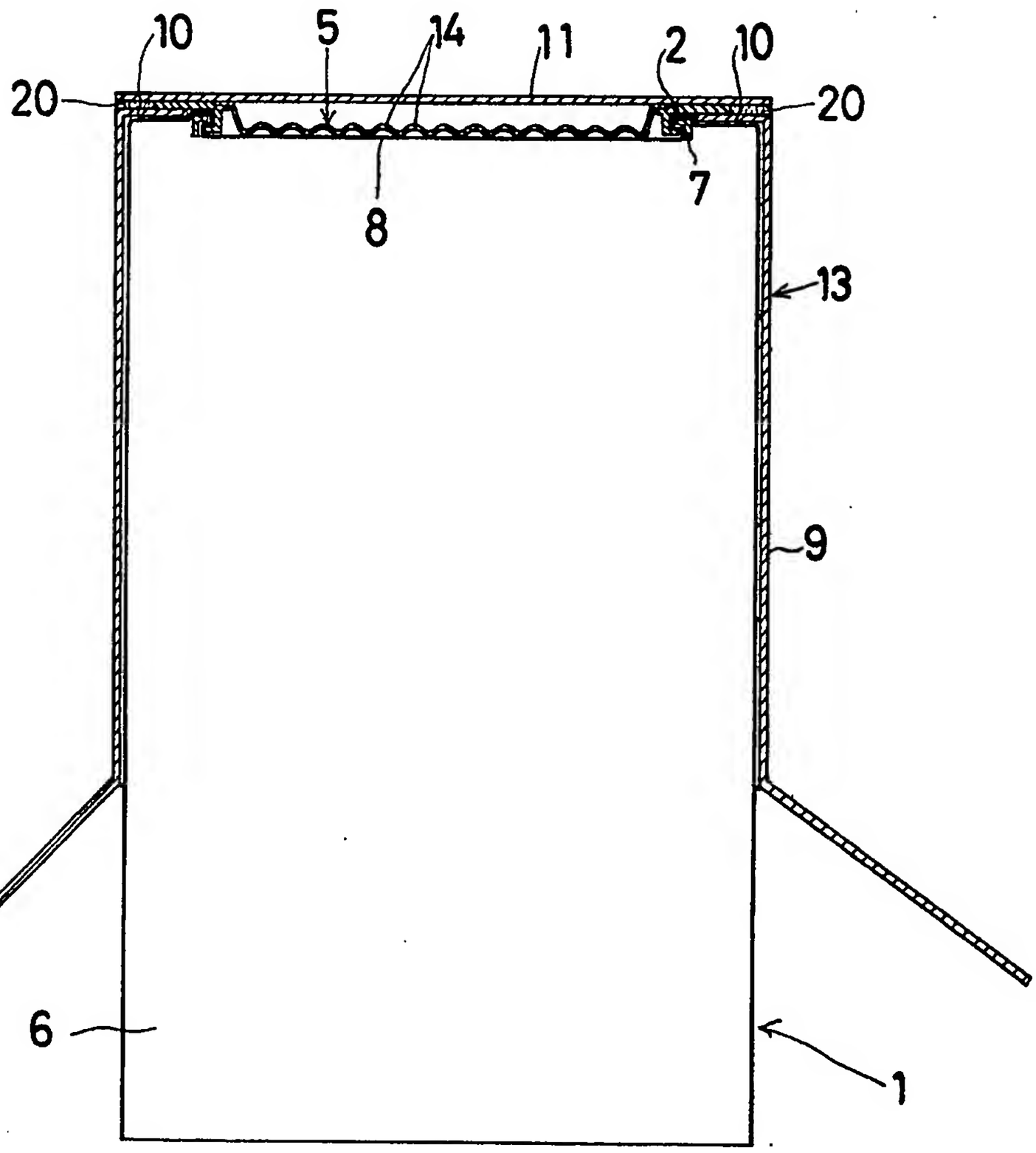


FIG.5A

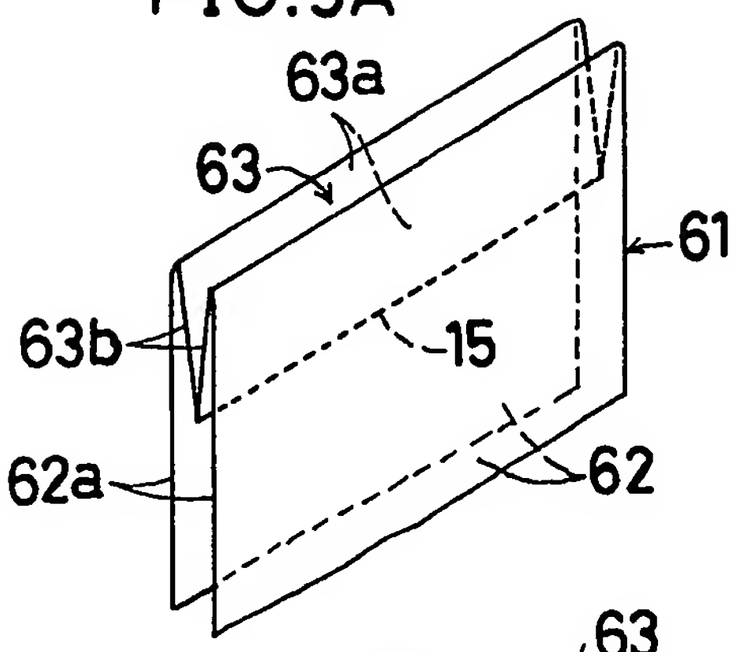


FIG.5B

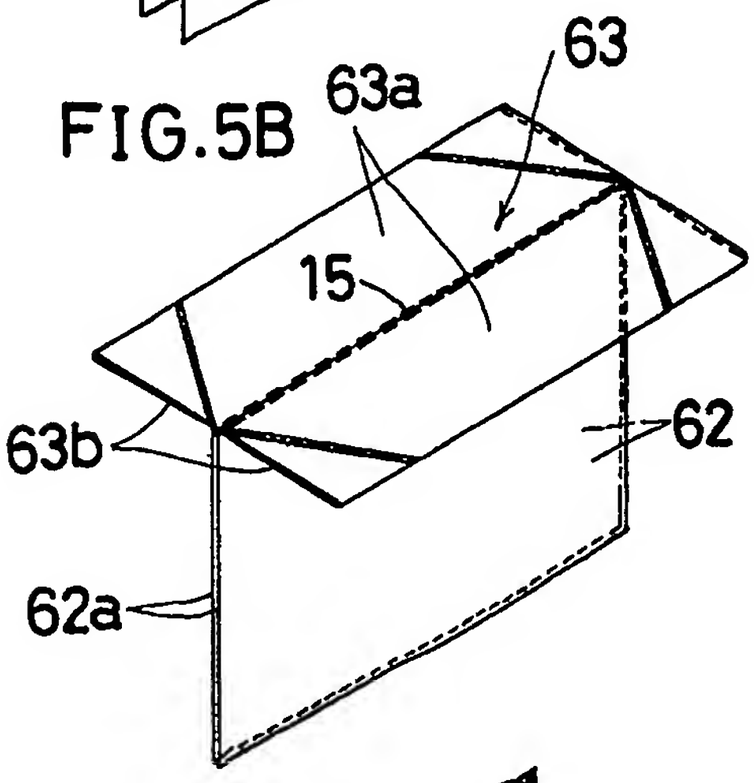


FIG.5C

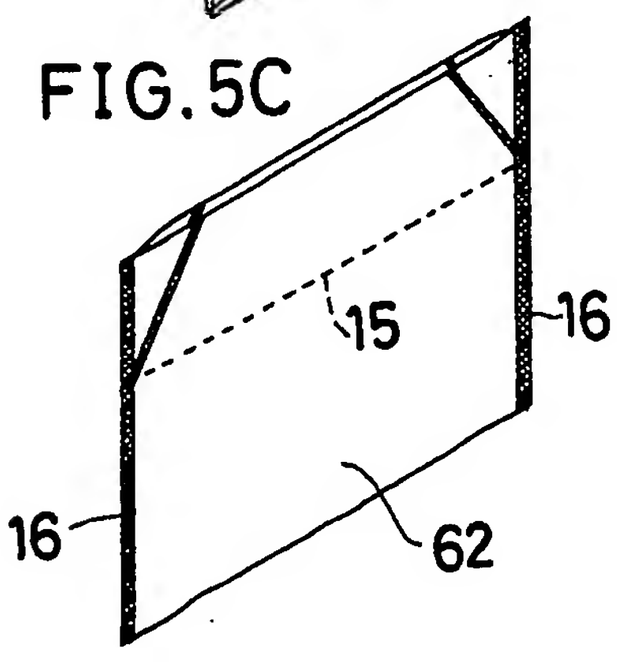


FIG.6A

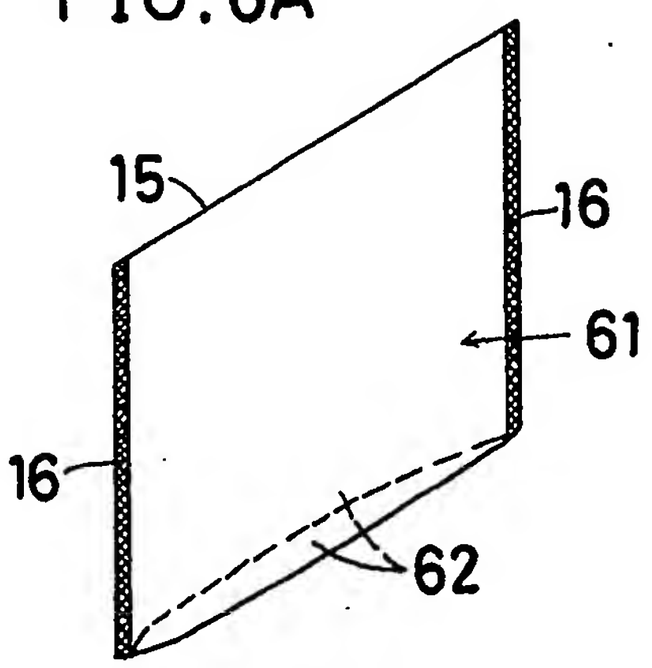


FIG.6B

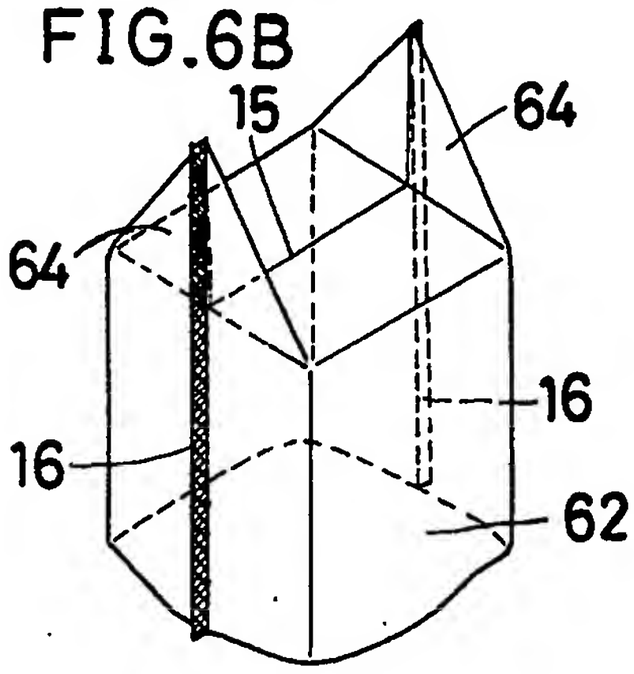
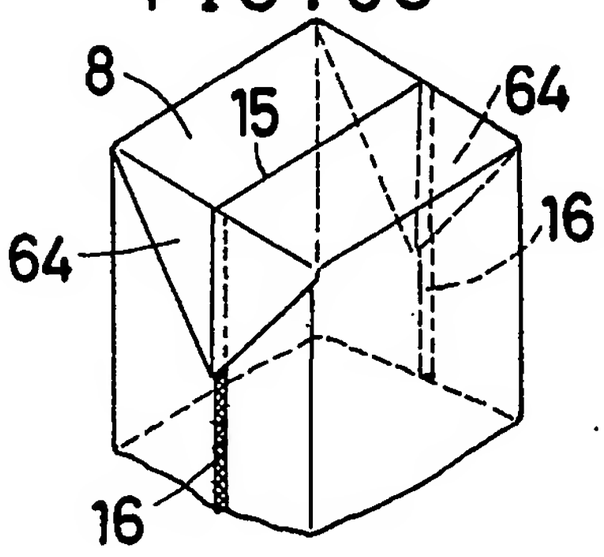


FIG.6C



416

FIG.7

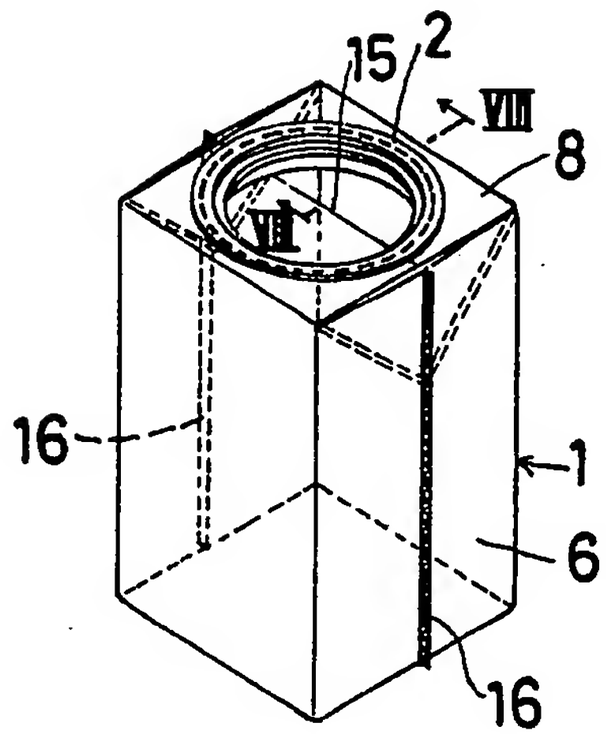


FIG.8

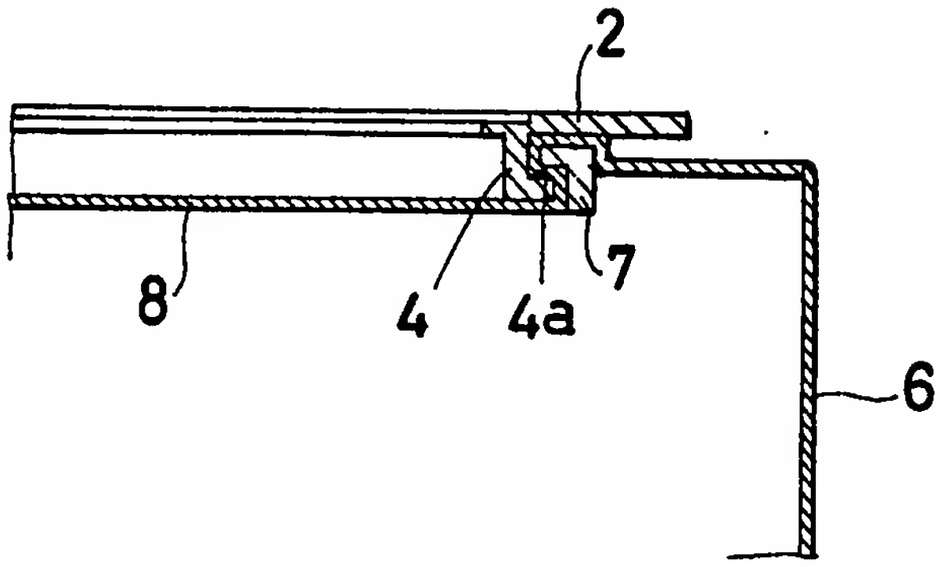


FIG.9

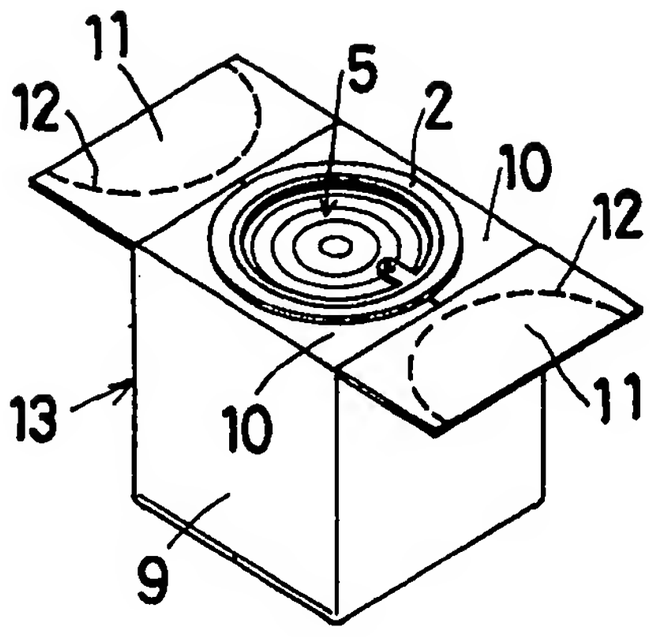


FIG.11

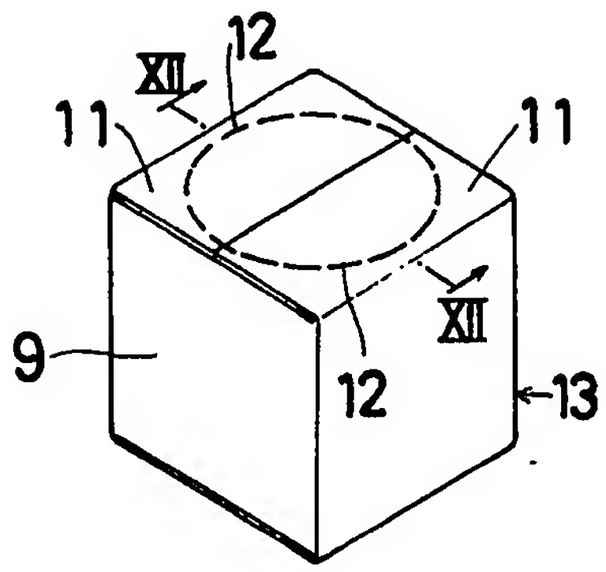


FIG.10A

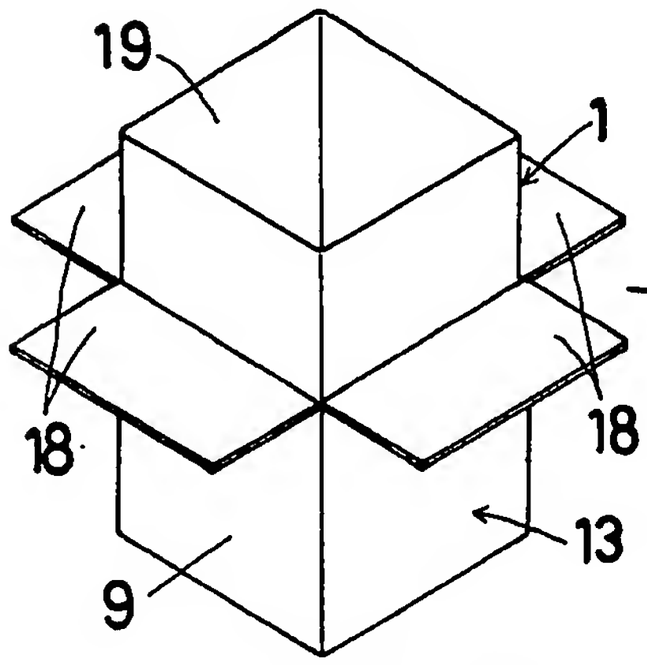


FIG.10C

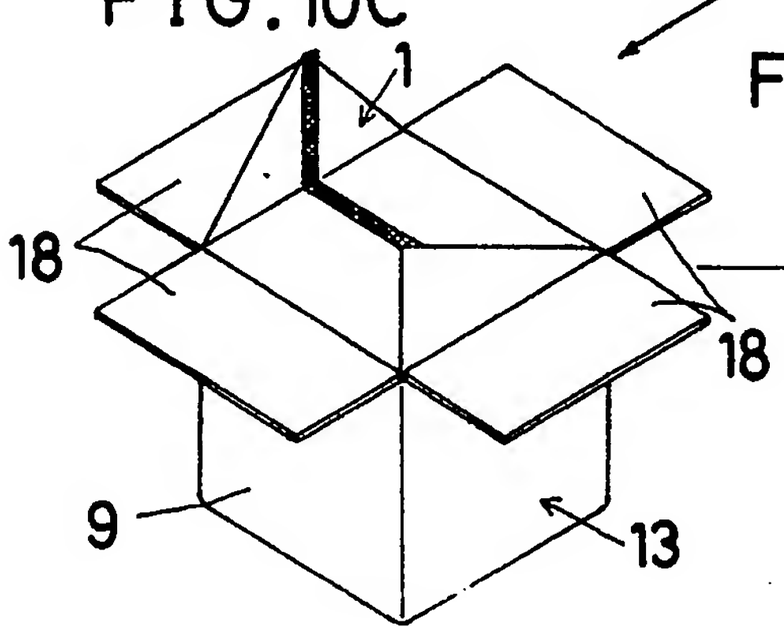


FIG.13

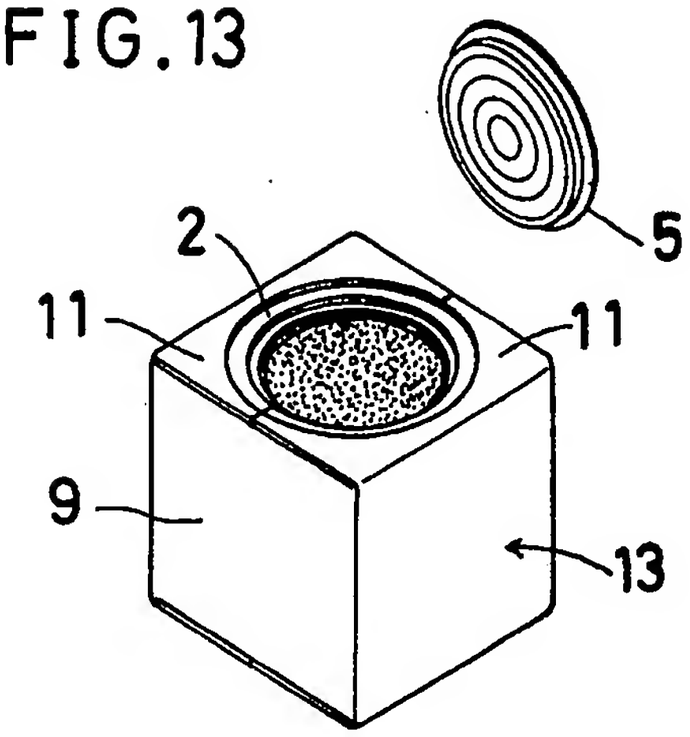


FIG.10B

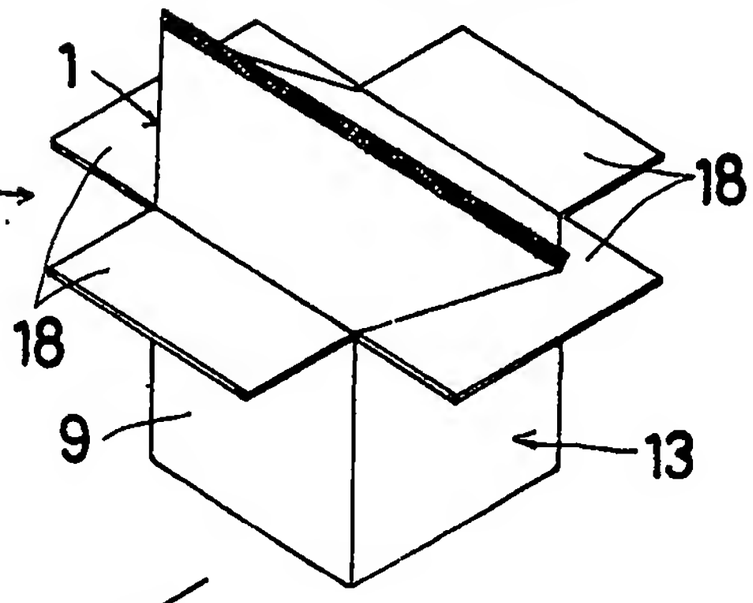


FIG.10D

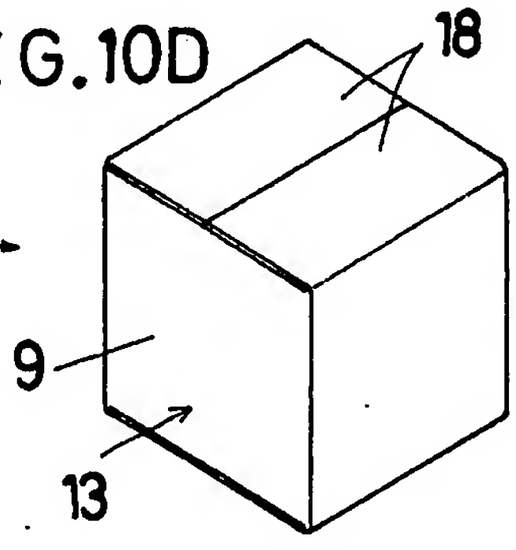


FIG.12

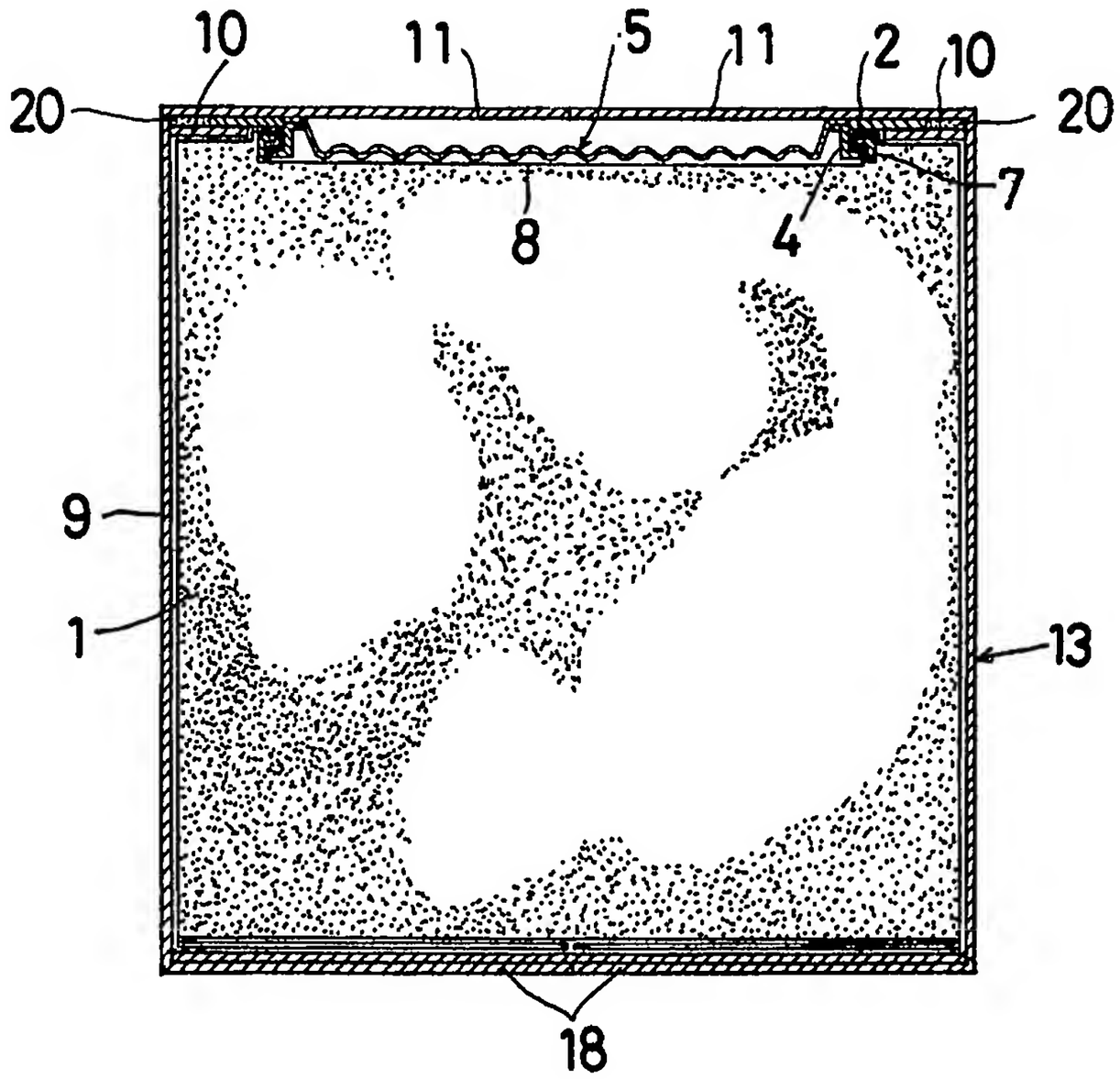
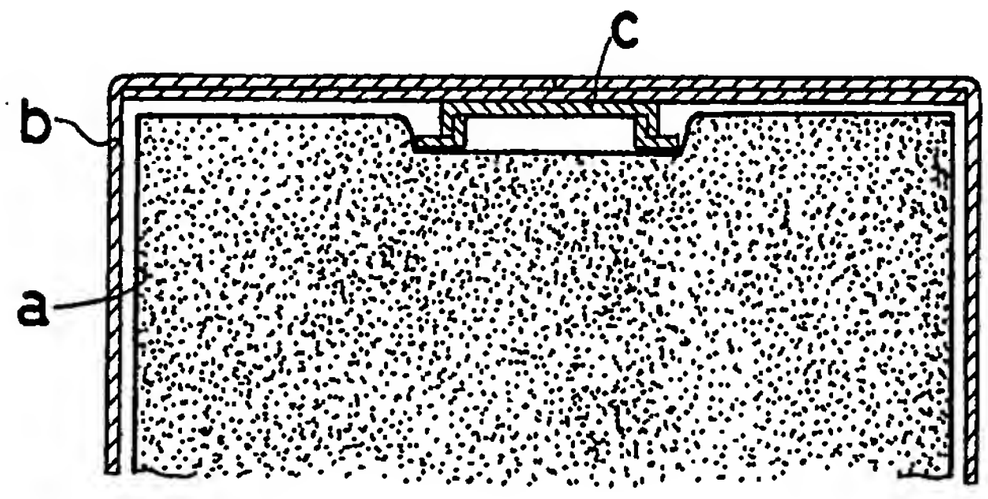


FIG.14



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EUROPEAN SEARCH REPORT

Application number
0053310
EP 81109683.3

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	GB - A - 1 383 497 (PEMBROKE) * Totality * --	1,2,4,5,6	B 65 D 5/42 B 65 D 5/56// B 65 D 5/64
A	GB - A - 927 866 (MECAPLAST) * Fig. 1,2 * --	1-4	
A	US - A - 2 454 919 (HAGAN) * Fig. 4 * ----	1-3	

TECHNICAL FIELDS SEARCHED (Int.Cl.³)

B 65 D 3/00
B 65 D 5/00
B 65 D 6/00
B 65 D 25/00
B 65 D 47/00

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&: member of the same patent family, corresponding document

X The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
VIENNA	26-02-1982	CZUBA

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